

CDC Zika IMS Jurisdiction and Partner Sustainment Strategy

Wednesday, March 1, 2017

Christine Kosmos, RN, BSN, MS

Michael Beach, PhD

Director, Division of State and Local
Readiness

Deputy Incident Manager for the CDC Zika
Virus Response

Office of Public Health Preparedness
and Response

OVERVIEW

- Opening Remarks
- Task Force Presentations
- Closing Remarks

TELECONFERENCE OVERVIEW	DATE/TIME/LOCATION
Laboratory Task Force Eddie Ades, Robert Lanciotti, Christy Ottendorfer	Wed 3/15/2017 / 2pm–3pm EDT - Domestic Wed 3/15/2017 / 5 pm–6 pm EDT - Islands Bridge Line: 1(888)972-6716/ Passcode: 6721430
Joint Information Center/Communications Erin Connelly	Wed 3/22/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Epidemiology Task Force Stacey Martin, Carolyn Gould	Thurs 3/23/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Vector Issues Team Janet McAllister, Audrey Lenhart	Tues 3/28/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Policy and Partnerships Sue Visser, Melody Stevens	Wed 3/29/2017 / 1:30pm–2:30pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Pregnancy and Birth Defects Task Force (including surveillance) Peggy Honein, Dana Meaney-Delman, Suzanne Gilboa	Wed 3/29/2017 / 3pm–4pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Blood Safety Task Force Sustainment Strategy Discussions Koo Chung, Matt Kuhnert, Craig Hooper	Thurs 3/30/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Medical Investigations Team Sustainment Strategy Discussions Maleeka Glover	Thurs 3/30/2017 / 3:30pm–4:30pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430

Speakers for the March 1st “Sustaining the Zika Response in 2017” Presentations

Epidemiology Task Force - **Carolyn Gould**

Pregnancy and Birth Defects Task Force - **Peggy Honein/Dana Meaney-Delman**

Laboratory Task Force - **Eddie Ades/Wendi Kuhnert-Tallman**

Blood Safety Task Force - **Koo-Whang Chung**

Medical Investigations Team - **Maleeka Glover**

Joint Information Center - **Erin Connelly**

Policy & Partnerships - **Sue Visser/Melody Stevens**

Vector Issues Task Force – **John-Paul Mutebi**

Epidemiology Task Force

Zika virus in the United States

- From 2007–2014, 14 Zika virus disease cases identified in US travelers
- With recent outbreaks in the Americas, cases among US travelers increased substantially
- Limited local mosquito-borne transmission identified in two states (Florida and Texas)
- Outbreaks in three US territories (Puerto Rico, US Virgin Islands, and American Samoa)

Duffy et al. N Eng J Med 2009; Hennessey et al. Am J Trop Med Hyg 2016; Armstrong et al. MMWR 2016; Walker et al. MMWR 2016; Likos et al. MMWR 2016; Dirlikov et al. MMWR 2016.

Laboratory-confirmed Zika virus disease cases reported to ArboNET by states or territories — United States, 2015–2017 (as of Feb 15, 2017)

	States N=5,040		Territories N=37,023	
Travel-associated	4,748	(94%)	141	(<1%)
Locally acquired	220	(4%)	36,882	(99%)
Other routes*	72	(1%)	0	(0%)

*Includes sexual transmission (n=44), congenital infection (n=26), laboratory transmission (n=1), and person-to-person through an unknown route (n=1)

State of residence for reported Zika virus disease and presumptive viremic blood donor cases — U.S. states, 2015–2017 (as of Feb 15, 2017)

State	Symptomatic disease cases (N=5,040)	Presumptive viremic blood donor† (N=36)
New York	1,020 (21%)	2 (6%)
Florida	1,069* (21%)	24 (67%)
California	420 (9%)	5 (14%)
Texas	306* (6%)	3 (8%)
New Jersey	176 (4%)	0 (0%)
Pennsylvania	173 (4%)	0 (0%)
Maryland	130 (3%)	0 (0%)

† People who reported no symptoms at the time of donating blood, but whose blood tested positive when screened for the presence of Zika virus RNA by the blood collection agency. Some presumptive viremic blood donors develop symptoms after their donation or may have had symptoms in the past. These individuals may be reported as both Zika virus disease cases and presumptive viremic blood donors.

* Include 210 cases in FL and 6 cases in TX acquired through presumed local mosquito-borne transmission

<http://www.cdc.gov/zika/geo/united-states.html>



Reported Zika virus disease and presumptive viremic blood donor cases — U.S. territories, 2015–2017

(as of Feb 15, 2017)

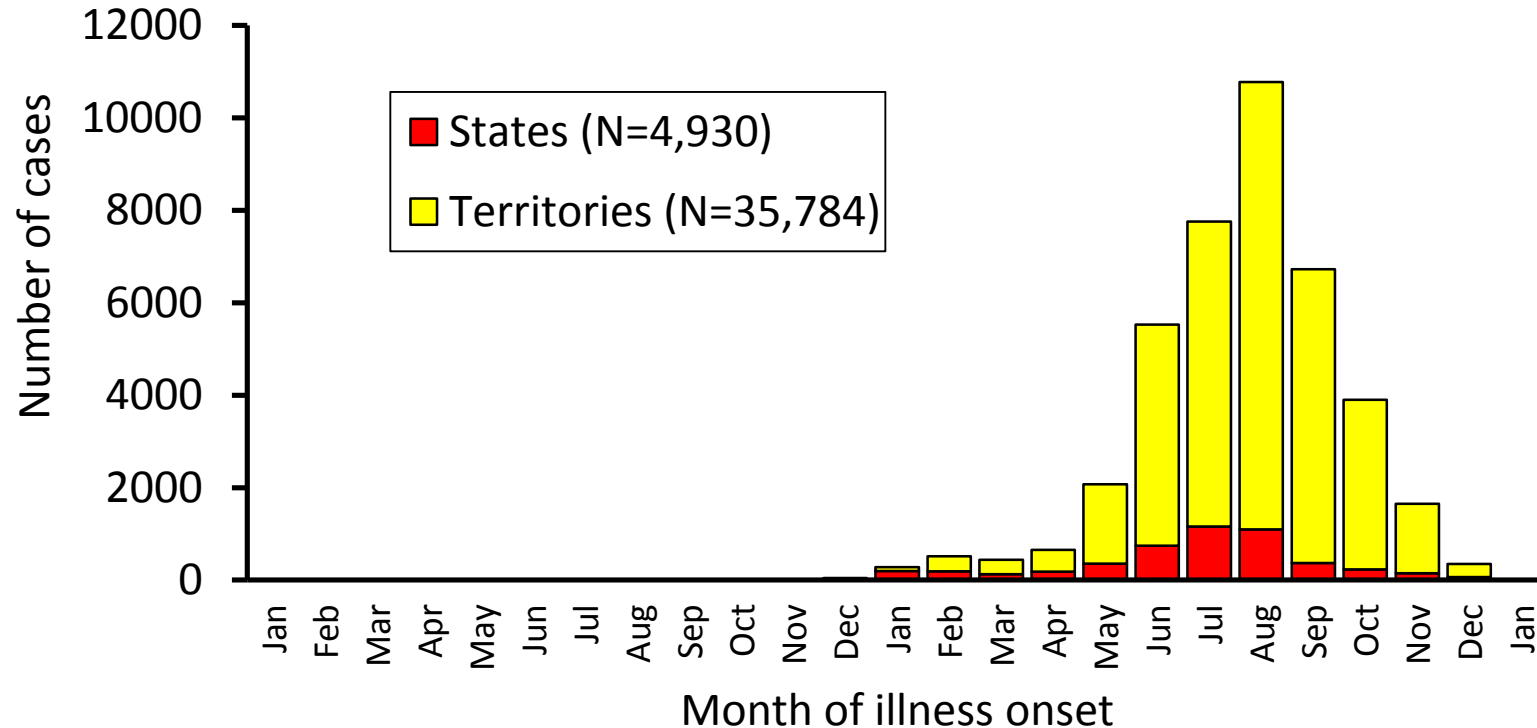
Territory	Symptomatic disease cases (N=37,023)	Presumptive viremic blood donor[†] (N=318)
Puerto Rico	35,930 (97%)	318 (100%)
US Virgin Islands	973 (3%)	0 (0%)
American Samoa	120 (<1%)	0 (0%)

[†] People who reported no symptoms at the time of donating blood, but whose blood tested positive when screened for the presence of Zika virus RNA by the blood collection agency. Some presumptive viremic blood donors develop symptoms after their donation or may have had symptoms in the past. These individuals may be reported as both Zika virus disease cases and presumptive viremic blood donors.

<http://www.cdc.gov/zika/geo/united-states.html>



Month of illness onset for Zika virus disease cases — US states and territories, 2015–2017 (as of Jan 25, 2017)



Objectives of Zika virus surveillance in the United States

- Quantify and describe disease burden
- Identify and define areas with local mosquito-borne transmission
- Direct prevention and control efforts
- Identify and monitor infections in people at risk for poor outcomes

Continued reporting of Zika virus diseases cases

- Zika virus disease and infection are nationally notifiable
 - CSTE updated case definitions in 7/2016*
 - Includes non-congenital and congenital infection and disease
- Healthcare providers should continue to report suspected cases to their state or local health department
- State health departments should continue to report laboratory-confirmed cases to CDC according to CSTE case definitions
- Timely reporting allows health departments to assess and reduce the risk of local transmission or mitigate further spread

http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/2016PS/16_ID_01_edited7.29.pdf

Surveillance strategies to identify possible local transmission during mosquito season

- Survey household members and neighbors of travel-associated cases
- Monitor blood donor screening
- Investigate unusual clusters of rash illness in areas at high risk
- Expand testing for people with no known exposure but more specific constellation of clinical findings
 - For example: patient with fever, rash, and conjunctivitis in area with known vector mosquitoes

Preparing for next season

- Reassess risk areas, populations, and timing
- Continue to educate healthcare providers and local public health officials about Zika virus
- Reassess public health laboratory testing and surge capacity
- Revisit testing capacity and reporting with commercial laboratories
- Update response plans with mosquito control districts
- Continue to coordinate with blood collection agencies

Ongoing challenges for the next season

- Optimal and cost effective approaches to identifying local transmission
- Surveillance strategies for determining extent of local transmission
- Defining travel exposure risk (e.g., border region)
- Identifying likely exposure location of confirmed cases
- Diagnostic issues – cross-reactivity, false positives
 - Differential diagnosis may require testing for other pathogens
- Communicating risk and delineation of risk areas
- Timely and appropriate travel and testing guidance
- Correlating human risks with vector surveillance data

Pregnancy and Birth Defects Task Force

What have we learned?

Established that
Zika is a cause
of microcephaly,
serious brain
defects, and is
linked to potentially
other birth defects

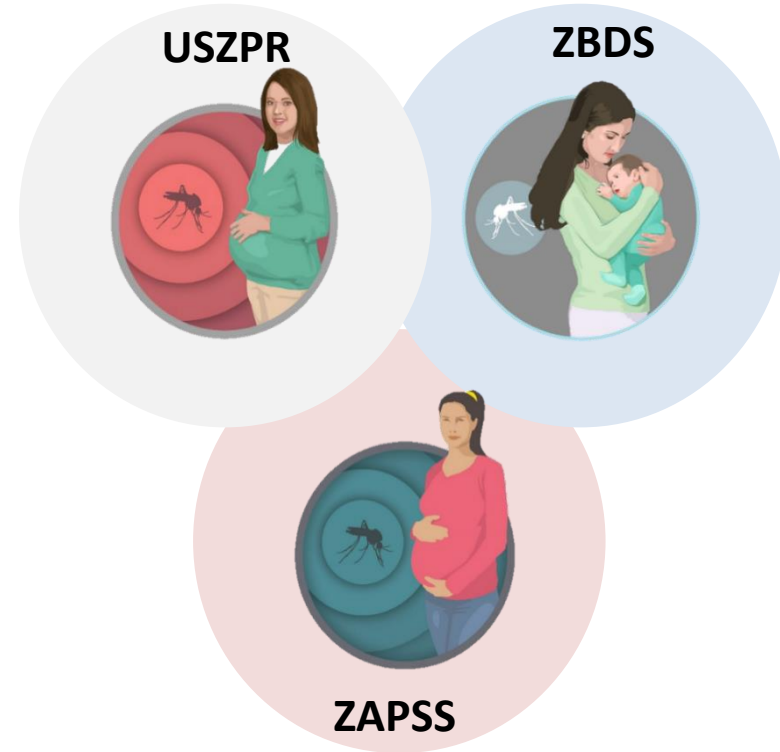
Estimated that
among pregnancies
with evidence of
Zika infection in the
1st trimester,
about 11% of
fetuses and infants
had birth defects

Recognized pattern
of birth defects
associated with Zika
virus infection called
**congenital
Zika syndrome**

Identified that Zika
infections during the
**1st and 2nd
trimester** have
been associated with
birth defects

What do we hope to learn in the next year?

- Identify full range of health effects among infants with congenital Zika exposure
- Determine optimal Zika virus testing to identify infants with congenital Zika virus infection
- Understand how neuroimaging will help identify infants with adverse effects of congenital Zika infection
- Understand implications of Zika RNA persistence in pregnant women and infants
- Assess risk of other adverse outcomes associated with Zika infection during pregnancy
- Use data to inform clinical management of pregnant women with Zika



What worked?

Successful Partnerships


- CDC collaborated with state and local jurisdictions on travel and testing guidance of pregnant women for Health Alert Network (HAN) notices
- Deployed pregnancy and birth defects expert as part of the CDC Emergency Response Team
- Partnered with state and local jurisdictions and local chapters of clinical partner organizations to increase outreach to healthcare providers



What worked?

Development of Clinical Tools and Guidance

Pregnancy & Zika Testing



CDC's top priority for the public health response to Zika is to protect pregnant women because of the risks associated with Zika virus infection during pregnancy.

Recently, CDC updated its interim guidance for healthcare providers caring for pregnant women with possible Zika virus exposure. This web tool is intended to help healthcare providers apply the updated recommendations for Zika virus testing, interpretation of results, and clinical management for a pregnant woman with possible exposure to Zika virus.


- This tool is intended for healthcare providers and public health officials in the United States.
- CDC continues to evaluate all available evidence and will update recommendations as new information becomes available.

[Share](#) | [Privacy](#)Start

Zika Pregnancy Testing Algorithm

CDC's Response to Zika

WHAT YOU SHOULD KNOW ABOUT ZIKA VIRUS TESTING

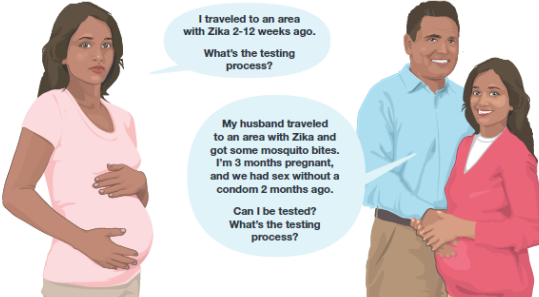


For Pregnant Women Who May Have Been Exposed to Zika 2-12 Weeks Ago

If you or your sex partner live in or recently traveled to an area with Zika, you may have been exposed to Zika. You may have questions about Zika and how to find out if you've been infected. Learn more about Zika virus testing for pregnant women and what you might expect if you have Zika virus during pregnancy.

Zika testing is complex

- **You may need more than one Zika test:** You may find out if you have Zika after one test. However, finding out if you have Zika can require up to three different tests, because the result of one test may require more testing to find out if you recently had a Zika virus infection. You may wait different amounts of time for results of each test to come back.
- **Understanding test results can be challenging:** Zika virus is similar to other viruses that are carried by mosquitoes. Testing for Zika may also detect these other mosquito-borne viruses. Sometimes even after testing, we may not know which type of virus you were infected with. Each test result is important, because it helps your doctor or other provider decide which virus is most likely and how best to care for you during pregnancy.



Pretest Counseling Materials

Assessing for Zika During Pregnancy

- All pregnant women should be assessed for possible Zika exposure, signs, and symptoms at each prenatal care visit. They should be asked if they
 - Traveled to or live in an area with active Zika transmission
 - Had sex without a condom with a partner with potential exposure to Zika

CDC's Response to **Zika**
ZIKA SCREENING TOOL FOR PREGNANT WOMEN

(To be administered by nurse, check-in receptionist, or other healthcare provider)

All pregnant women should be assessed for possible Zika virus exposure¹ at each prenatal care visit. Use this tool to evaluate pregnant women for exposure to Zika virus and for signs and symptoms of Zika virus disease to determine whether testing is indicated.

NOTE: If your pregnant patient has questions about Zika testing, educational factsheets are available on CDC's website: <http://www.cdc.gov/zika/hc-providers/pregnant-woman.html>

Assess for Possible Exposure¹ to Zika Virus Infection
(See references on back for more information.)

Circle response:

Do you live in or do you frequently travel (daily or weekly) to an area with active Zika virus transmission?

YES | NO

Have you traveled to an area with Zika² during pregnancy or just before you became pregnant (8 weeks before conception or 6 weeks before your last

YES | NO

If Pregnant Patient Answered "Yes" to Any Question, Assess for Signs and Symptoms of Zika Virus Disease

Circle response:

Do you currently have or have you had (in the last 12 weeks) fever, rash, joint pain, or conjunctivitis (red eyes)?

YES | NO

Pregnancy & Zika Testing Restart

Select your profession:

☐ Obstetrician/Gynecologist

☐ Family Physician

☐ Nurse

☐ Nurse-midwife

☐ Other healthcare provider

☐ State health department official

☐ Local health department official

☐ Other

← Back Next →

Link: http://www.cdc.gov/zika/pdfs/zikapreg_screeningtool.pdf

CDC Recommendations: Who Should be Tested



Pregnant women with possible exposure to Zika virus and signs or symptoms should be tested for Zika virus infection

Pregnant women with possible exposure to Zika virus who do not report symptoms also should -tested

Pregnant women with ongoing risk of Zika virus exposure and who do not report symptoms should be tested in the 1st and 2nd trimesters of pregnancy

What worked?

Collaboration with Jurisdictions on US Zika Pregnancy Registry & US Zika Birth Defects Surveillance

- Regular reporting and joint publication of findings
- ELC M2: Funding to support US Zika Pregnancy Registry efforts
- Provided funding to support population-based surveillance of birth defects potentially related to Zika virus

Pregnant Women with Any Laboratory Evidence of Possible Zika Virus Infection

US States and the District of Columbia*

1,455

*Includes aggregated data reported to the [US Zika Pregnancy Registry](#) as of February 7, 2017

US Territories**

3,156

**Includes aggregated data from the US territories reported to the [US Zika Pregnancy Registry](#) and data from Puerto Rico reported to the [Zika Active Pregnancy Surveillance System](#) as of February 7, 2017

USZPR Completed Pregnancies

Completed Pregnancies with or without birth defects

1,047

Includes aggregated data reported to the US Zika Pregnancy Registry

USZPR Pregnancy Outcomes

Pregnancy Outcomes in the United States and the District of Columbia

Liveborn infants with birth defects*

43

Includes aggregated data reported to the [US Zika Pregnancy Registry](#) as of February 7, 2017

Pregnancy losses with birth defects**

5

Includes aggregated data reported to the [US Zika Pregnancy Registry](#) as of February 7, 2017

What worked?

Local Health Department Field Support

16 jurisdictions applied for CDC resource assignee to support:

- Clinical outreach
- Community outreach / health communications
- Medical abstraction
- Data collection, validation, investigation
- Monitoring and follow up
- Referral to services



Laboratory Task Force

Successes

- CDC-developed MAC-ELISA (February 26, 2016) and Trioplex rRT-PCR (March 17, 2016) tests receive first FDA EUA to diagnose Zika virus infection
- CDC continues to manufacture and distribute reagents for these assays domestically and internationally
- CDC laboratories provide confirmatory testing and surge capacity for Zika virus

Laboratory	Number of Specimens Received	Number of Specimens Tested by rRT-PCR	Number of Specimens Tested by Zika IgM MAC-ELISA
CDC-Atlanta	5,023	3,464	2,827
CDC-Fort Collins	18,262	3,926	15,571
CDC-San Juan	81,667	45,136	48,015
LRN	60,788	25,439	35,349
Total	165,2692	77,965	101,762

Concerns

- **Limited data on viral persistence and impact on testing algorithms**
- **Specificity of diagnostic assays**
 - In-house evaluation of 3 commercial assays with MAC-ELISA as gold standard

Manufacturer	Sensitivity	Specificity
InBios (EUA approved)	82%	85%
NovaTec NovaLisa	70%	98%
Euroimmun	72%	95%

- **Usefulness of PRNT**
 - Crossreactivity due to past flavivirus infections
- **Turn around time from sample receipt to when results reach physicians**
 - Discussions ongoing to pursue HL7 messaging to decrease time from test completion to results being available to a physician

2017 Anticipated Plans

- Provide Zika virus SME and reference laboratory support in Fort Collins
- Maintain surge laboratories for Zika diagnostic testing in Atlanta
- Assist state and territorial laboratories, as needed
- Refine performance of diagnostic assays
- Move testing to commercial laboratories
- New research

Move testing to commercial laboratories

- **Early in response CDC entered into agreements with the 4 nation-wide commercial laboratories**
 - Provided MAC-ELISA reagents free of charge to encourage testing until additional serology assays achieved EUA approval
 - Challenges with reporting and assay performance
- **Movement of testing will decrease surge needs for CDC laboratories**
 - 12 PCR assays currently approved (including Trioplex)
 - 2 IgM assay currently approved (including MAC-ELISA)

New Research: Improvement of Molecular and Serologic Diagnostic Tools for Zika Virus (all CDC laboratories)

- ❑ **Improve sensitivity of high-throughput rRT-PCR by specimen volume or type**
 - Studies ongoing to evaluate serum, whole blood and urine to evaluate sensitivity of each
- ❑ **Development of a Zika Virus multiplex Bead Assay (IgM/IgG)**
 - Investigation of more specific antibodies
- ❑ **Development of rapid and specific IgM diagnostic test using mass spectrometry**
- ❑ **Refinement of recombinant antigens in testing platforms to eliminate the need for inactivation of live virus**

Blood Safety Task Force

Blood Safety Task Force

Background on Blood, Organ, and Tissue Collection/Screening

Blood

- Types of collection: whole blood and apheresis
- Types of products: red blood cells, platelets, plasma
- Screening: hepatitis B/C, HIV, human T-lymphotropic virus (HTLV), syphilis, West Nile virus, and Zika virus

Human Cells, Tissues, and Cellular and Tissue-based Products (HCT/Ps)

- Types of products: corneas, bone, skin, heart valves, hematopoietic stem/progenitor cells (HPCs), reproductive tissues, etc.
- Screening: hepatitis B/C, HIV, HTLV, syphilis, cytomegalovirus, chlamydia, gonorrhea

Solid Organs

- Types of products: kidney, heart, liver, etc.

Blood Safety Task Force

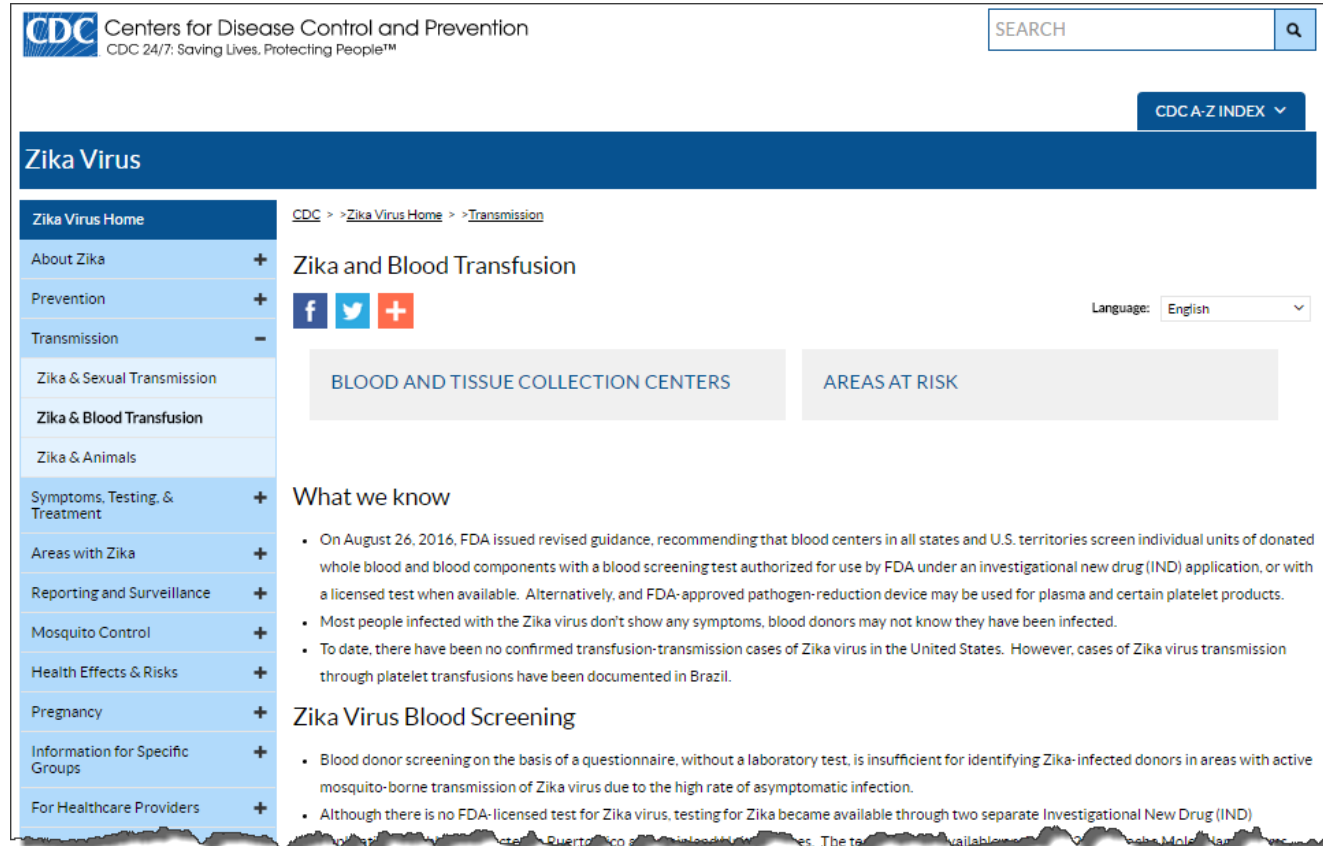
Blood Safety

- No confirmed Zika virus transfusion-transmitted cases in the United States
 - Probable Zika virus transfusion-transmitted cases in Brazil
- US Food and Drug Administration (FDA) issued industry guidance on Feb. 2016¹ and revised guidance on Aug 2016²
 - Blood collection centers in all states and US territories should perform Zika virus screening on all donations using a screening test authorized for use under an FDA investigational new drug (IND) protocol, or with a licensed test when available; or use an FDA-approved pathogen-reduction device for plasma and certain platelet products

¹ <https://www.fda.gov/downloads/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Guidances/Blood/UCM486360.pdf>

² <https://www.fda.gov/downloads/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Guidances/Blood/UCM518213.pdf>

Blood Safety Task Force



The screenshot shows the CDC website's Zika Virus page, specifically the 'Zika and Blood Transfusion' section. The page has a blue header with the CDC logo and navigation links. A sidebar on the left contains a menu with options like 'About Zika', 'Prevention', 'Transmission', and 'Symptoms, Testing, & Treatment'. The main content area is titled 'Zika and Blood Transfusion' and includes social media icons, a language dropdown set to 'English', and two highlighted boxes: 'BLOOD AND TISSUE COLLECTION CENTERS' and 'AREAS AT RISK'. Below these, the 'What we know' section contains three bullet points about FDA guidance, symptoms, and confirmed cases. The 'Zika Virus Blood Screening' section follows with two bullet points about screening methods and testing availability.

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People™

SEARCH

CDC A-Z INDEX ▾

Zika Virus

[Zika Virus Home](#)

About Zika +

Prevention +

Transmission -

Zika & Sexual Transmission

Zika & Blood Transfusion

Zika & Animals

Symptoms, Testing, & Treatment +

Areas with Zika +

Reporting and Surveillance +

Mosquito Control +

Health Effects & Risks +

Pregnancy +

Information for Specific Groups +

For Healthcare Providers +

[CDC](#) > [Zika Virus Home](#) > [Transmission](#)

Zika and Blood Transfusion

[f](#) [t](#) [+](#)

Language: English ▾

BLOOD AND TISSUE COLLECTION CENTERS

AREAS AT RISK

What we know

- On August 26, 2016, FDA issued revised guidance, recommending that blood centers in all states and U.S. territories screen individual units of donated whole blood and blood components with a blood screening test authorized for use by FDA under an investigational new drug (IND) application, or with a licensed test when available. Alternatively, and FDA-approved pathogen-reduction device may be used for plasma and certain platelet products.
- Most people infected with the Zika virus don't show any symptoms, blood donors may not know they have been infected.
- To date, there have been no confirmed transfusion-transmission cases of Zika virus in the United States. However, cases of Zika virus transmission through platelet transfusions have been documented in Brazil.

Zika Virus Blood Screening

- Blood donor screening on the basis of a questionnaire, without a laboratory test, is insufficient for identifying Zika-infected donors in areas with active mosquito-borne transmission of Zika virus due to the high rate of asymptomatic infection.
- Although there is no FDA-licensed test for Zika virus, testing for Zika became available through two separate Investigational New Drug (IND)

<https://www.cdc.gov/zika/transmission/blood-transfusion.html>

Blood Safety Task Force

The areas listed under “Areas of Active Transmission in the U.S.” can differ from those issued for travel guidance's because of additional concerns about potential risk for tissue safety.

Zika Virus Home

About Zika +

Prevention +

Transmission +

Symptoms, Testing, & Treatment +

Areas with Zika +

Reporting and Surveillance +

Mosquito Control +

Health Effects & Risks +

Pregnancy +

Information for Specific Groups -

State & Local Health Departments +

Parents +

Blood & Tissue Collection Centers -

Areas At Risk

Schools

Community Partners

Policymakers +

Healthcare Providers

CDC > [Zika Virus Home](#) > [Information for Specific Groups](#) > [Blood & Tissue Collection Centers](#)

Areas At Risk For Locally Acquired Vector-borne Zika Cases

f t +

Language: English v

Zika virus information for the blood and tissue collection community

CDC is working with state health departments and blood and tissue collection organizations to help ensure the safety of our blood and tissue supply and reduce the risk of Zika virus transmission through blood transfusions and tissue transplants. Zika virus disease is a nationally notifiable condition. Cases are reported to CDC by state and local health departments using standard case definitions.

Areas of Active Transmission in the United States

To protect the US blood and tissue supply, CDC in collaboration with the US Food and Drug Administration (FDA) defines areas of active Zika virus transmission as having two or more locally acquired cases of Zika virus infection within 45 days. These defined areas of risk can be different from areas for which CDC has issued travel guidance because of concerns about potential risk for blood and tissue safety.

The following are areas of active transmission of Zika virus in the continental United States for the purpose of blood and tissue safety intervention:

- Miami-Dade County, Florida - As of July 29, 2016
[Florida Department of Health Confirms Local Transmission](#) [↗](#) - click to view announcement
- Cameron County, Texas - As of December 9, 2016
[Texas Announces Additional Local Zika Cases in Cameron County](#) [↗](#)

The following are *previously* listed areas of active transmission of Zika virus in the continental United States for the purpose of blood and tissue safety intervention:

- Palm Beach County, Florida - From August 24, 2016 - November 2, 2016*
[Florida Department of Health Zika Update](#) [↗](#) - click to view announcement

*No new cases of local Zika virus transmission have been identified for a period of 45-days.

Travel notice posting dates for countries and territories with reported local mosquito transmission of Zika virus.

36

Blood Safety Task Force

Tissue Safety

- FDA's March 2016¹ guidance included Zika virus-related:
 - Recommendations for living donors
 - Recommendations for non-heart-beating (cadaveric) donors

Organ Safety

- No Zika virus guidance has been issued by Health Resources and Services Administration (HRSA), but the Organ Procurement and Transplantation Network (OPTN) issued a statement on Zika virus on July 2016²
 - For questions related to ZIKV organ safety, contact the Blood Safety Taskforce at eocevent281@cdc.gov

¹ <https://www.fda.gov/downloads/biologicsbloodvaccines/guidancecomplianceregulatoryinformation/guidances/tissue/ucm488582.pdf>

² <https://optn.transplant.hrsa.gov/news/guidance-on-zika-virus/>

Blood Safety Task Force

Key Messages

- Blood donation screening can help public health identify new areas of transmission
- State health departments (SHDs) and blood banks should ensure procedures are in place for sharing information regarding positive blood donors
 - Presumptive viremic donors (PVDs) should be reported to ArboNET
- SHDs and tissue banks should strengthen communication regarding Zika virus and tissue donations

Medical Investigations Team

Joint Information Center (JIC)

Joint Information Center

Zika—a threat like no other

- **The most complex communication challenge in CDC (and US public health) history**
 - More risks and more unknowns
 - Diverse audiences, various languages and divided opinions
- **Guiding communication principles for response**
 - Evidence-based communication strategy
 - Coordination and consistency at all levels of government
 - Research to understand audience needs and behaviors in the midst of rapidly changing information
 - Collaboration with the community to inform strategy, mobilize partners, and amplify messages
 - Continuous, real-time evaluation driving adjustments to strategies and tactics

Communication – One Year Later

- Intensive, multisector initiatives, including health marketing and private-sector partnerships, can influence awareness and behaviors
- In some higher risk areas, not all pregnant women are aware of Zika, its effects on health, or how to protect themselves
- Preventive actions most often mentioned by audiences aware of Zika were
 - 1) Wearing repellent
 - 2) Dumping accumulated water
- “Invisibility” of Zika may contribute to complacency among audiences who aren’t personally at risk

Joint Information Center

Communication Strategy

- **ZAP Summit communication planning– Spring 2016**
 - Create a written, strategic communication plan
 - Include goals, objectives, target audiences, tactics, key messages and evaluation metrics
 - Revisit and update the plan throughout the response
 - Currently updating for 2017
- **Incorporate core risk communication principles in the plan**
 - Show empathy
 - Say what you know, what you don't know, and what you're doing to find out
 - Crisis & Emergency Risk Communication (CERC) resources: <https://emergency.cdc.gov/cerc>
- **Direct all communication activities toward achieving the goals of the plan**

Joint Information Center

Communication Response

- **Coordinate between local, state, and federal entities through clear lines of communication**
 - Harmonize and amplify communication strategy
 - Consistent messaging builds credibility with the public
- **Communicate with the public about the things that are important to them**
 - Understand the public's concerns and respond to them
 - Provide frequent press briefings and media access to the response
- **Strengthen the response through robust engagement with community partners, all types**
 - Those with other points of view can help to identify communication needs and gaps
 - Engaged partners can act as channels to reach other audiences

Joint Information Center

Communication Research

- **Ground your strategy in research**
 - Use convenient and ad hoc information sources to learn about what people do and do not know
 - Monitor local media and social media for themes, misinformation, and gaps
 - Track questions through all public and media inquiry sources (phone calls, emails, social media)
 - Real-time communication research can track message uptake and behavior change
- **Refine the communication strategy based on what you learn**
 - Add or revise tactics, channels, spokespeople, and messages
 - Update and reinforce information through your own channels, the news media, and partners
 - As the response evolves and you (and your audiences) learn more, focus messaging on addressing gaps

Policy and Partnerships

Partnerships Team Mission

In partnership with the CDC Foundation, CDC continues to grow vital relationships with public and private sector partners

The partnerships team cultivates partnerships in the areas of

- Protecting pregnant women
- Ensuring access to contraception
- Executing a comprehensive vector control program

CDC Responds to Zika Virus Outbreak; CDC Foundation Activates Response Funds



The Zika virus has rapidly spread through many countries and territories in the Americas, and it is likely the virus will continue to spread to new areas, with potential implications for pregnant women and infants. Immediate and swift action is critical to detect and respond to this rapidly evolving situation. The CDC Foundation has activated its two response funds—the Global Disaster Response Fund and the U.S. Emergency Response Fund—to fortify the Centers for Disease Control and Prevention's (CDC) rapid response to control the outbreak. Activating these funds provides an opportunity for individuals, philanthropies and the private sector to help CDC in its response.

To date, Zika virus has been identified in 30 nations, including U.S. territories. Cases have also been identified in the United States in travelers coming from areas with Zika outbreaks.

Make a Gift

Join CDC in fighting the Zika virus at home and abroad. Make a gift to the U.S. Emergency Response Fund or the Global Disaster Response Fund.

[> Give Now](#)

On Our Blog



[Zika Outbreak: Activating Our Global and U.S. Response Funds](#)
by Dr. Judy Monroe



Zika
Prevention Kits



ZAP Summit
Vector Summit



Americas-Region
Communication
Campaign



Zika
Contraception
Access
Network



Community
Engagement

Leveraging Partnerships to Help Decrease the Health Impact of Zika

White House Blog on Zika and Business Engagement



Amy Pope, Immediate Past Deputy Homeland Security Advisor and Deputy Assistant

“This is a fight that will continue to require the best we can offer from the government, the private sector, and our communities – and it will require partnerships at every level.”

<https://www.whitehouse.gov/blog/2016/06/22/update-zika-what-we-do-and-dont-know>

<https://www.whitehouse.gov/blog/2016/06/22/update-zika-what-we-do-and-dont-know>

Vector Issues Task Force

ELC M1 funded *Aedes aegypti/albopictus* surveillance and insecticide resistance testing in the US

- Funding provided via the ELC M1 mechanism for Zika vector control and surveillance
 - Aug 2016: FY16 funding (\$18M) awarded to 63 entities, including CONUS states as well as some CONUS cities, AK, HI, PR and Territories
 - Dec 2016: FY17 funding (\$27M) awarded to 23 entities, mostly southern CONUS states, HI, and territories

Guidelines for *Aedes aegypti* and *Aedes albopictus* Surveillance and Insecticide Resistance Testing in the United States

Version 2, 11/9/16

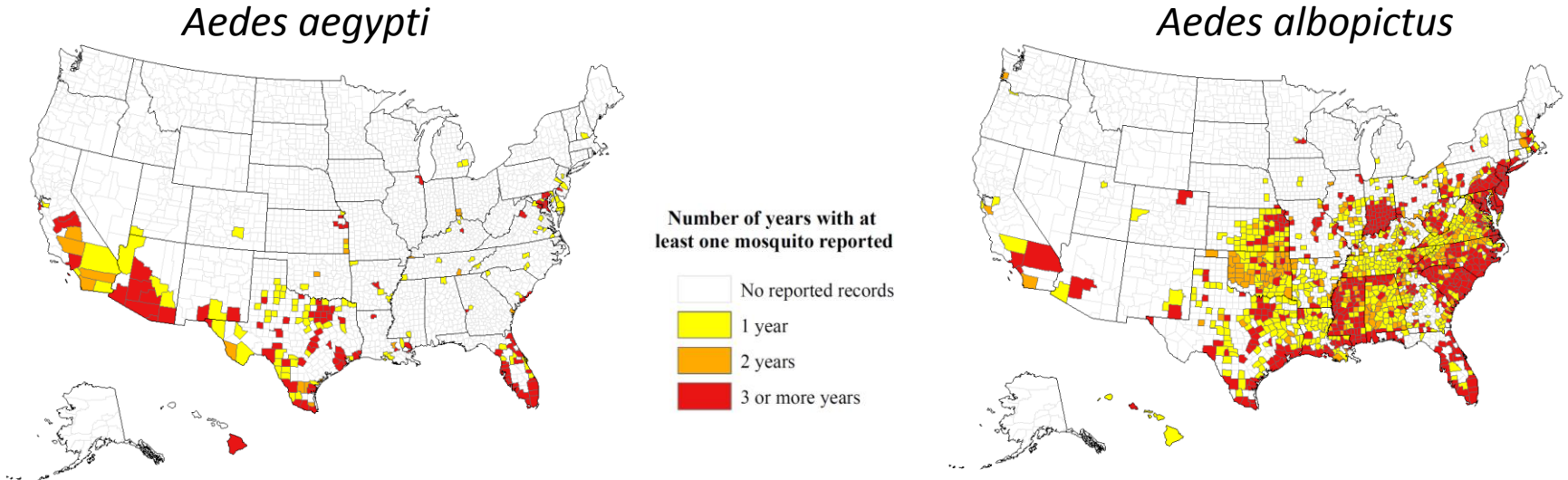
Table of Contents

Intended Audience	1
Part 1: Guidelines for Conducting Surveillance and for Reporting Presence, Absence, and Relative Abundance of <i>Aedes aegypti</i> and <i>Aedes albopictus</i>	1
Background	1
Surveillance Aims	2
CDC Surveillance Recommendations	2
Reporting to CDC	4
CDC Use of Reported Data	4
References	5
Part 2: Insecticide Resistance Testing for Known Mosquito Vectors of Zika, Dengue, and Chikungunya Viruses	6
Background	6
Testing Aims	6
CDC Testing Recommendations	6
Reporting to CDC	8
CDC Use of Reported Data	8
Addendum 1: Overview of Insecticide Resistance Testing Algorithm	8
Addendum 2: Extended Background on Insecticide Resistance	8
References	9

<https://www.cdc.gov/zika/pdfs/guidelines-for-aedes-surveillance-and-insecticide-resistance-testing.pdf>

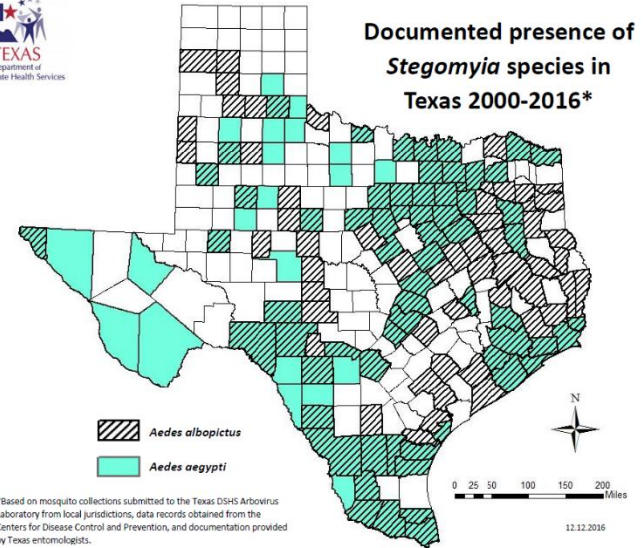
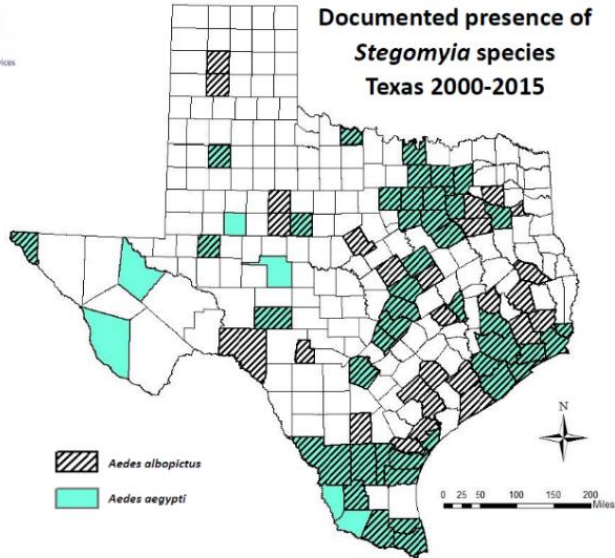
Second *Stegomyia* survey

- Updated survey for county-level records, Jan 1995 to Dec 2016



- Records for *Ae. aegypti* from 220 counties across 28 states and D.C. (38 new counties, mostly in TX, KS, CA; 2 new states, AL, IL)
- Records for *Ae. albopictus* from 1,368 counties across 40 states and D.C. (127 new counties, mostly in TX, KS, AR, NC)

Mosquito surveillance in Texas



141 counties in Texas now have documented presence of one or both *Stegomyia* species (*Ae. aegypti* and *Ae. albopictus*):
65 counties have documented the presence of both species
55 counties have documented the presence of *Ae. albopictus* only
21 counties have documented the presence of *Ae. aegypti* only

MosquitoNET online mosquito surveillance and insecticide resistance data reporting

MOSQUITONET WEB APPLICATION USER'S GUIDE VERSION 1.0.2



CENTERS FOR DISEASE CONTROL AND PREVENTION
DIVISION OF VECTOR-BORNE DISEASES



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

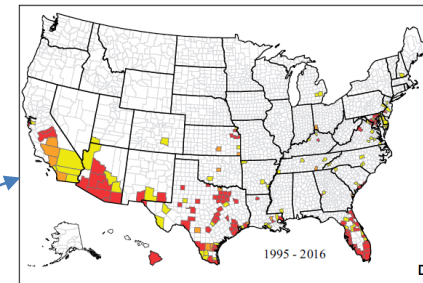
<https://www.cdc.gov/zika/vector/vector-control.html>

Mosquito Surveillance Data			
Collection Location Information			
*State	<input type="text" value="Florida"/>	*Site Type	<input type="text" value="Select or specify"/>
*Nearest Street Address	<input type="text"/>	*City	<input type="text"/>
*County	<input type="text" value="Select"/>	*Latitude	<input type="text" value="-123.123456 (8 dec)"/>
		*Longitude	<input type="text" value="-123.123456 (8 dec)"/>
Collection Information			
*ID for Collection Location	<input type="text"/>	*Life Stage Targeted	<input type="text" value="Select"/>
*Collection Method/Trap Type	<input type="text" value="Select or specify"/>	*Attractant(s) Used	<input type="text" value="Select or specify"/>
Trap Set / Larval and Pupal Collection Information			
*Set Date	<input type="text" value="Select"/>	*Time of Day	<input type="text" value="Select"/>
		*Pickup Date	<input type="text" value="Select"/>
		*Time of Day	<input type="text" value="Select"/>
Mosquito Information			
*Genus	<input type="text" value="Select"/>	*Species	<input type="text" value="Select"/>
Immature Specimen Collection			
*Eggs	<input type="text" value="Select"/>	*Larvae	<input type="text" value="Select"/>
		*Pupae	<input type="text" value="Select"/>
Adult Specimen Collection			
*Males	<input type="text" value="0"/>	*Females	<input type="text" value="0"/>
		*Unknown	<input type="text" value="0"/>
<input checked="" type="checkbox"/> Pre-populate values for next insert			
<input type="button" value="Return"/>		<input type="button" value="Save Record"/>	

Projected MosquitoNET outputs

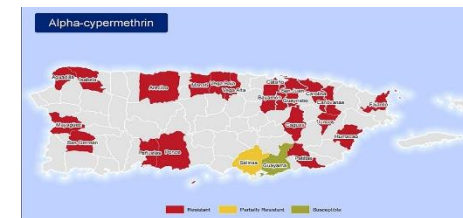
■ Key outputs from the data collected and reported to CDC

- Moving toward more standardized vector surveillance
 - Improved data/knowledge on the biology of immatures and adults across CONUS, and evaluation of data for specific surveillance methods, should lead to revised, more standardized surveillance schemes
- Mapping
 - County-based presence of *Ae. aegypti* and *Ae. albopictus*
 - Point locations for collections of *Ae. aegypti* and *Ae. albopictus*
 - County-based insecticide susceptibility/resistance patterns
- Modeling
 - Sub-county level predictive models for presence of *Ae. aegypti* and *Ae. albopictus*
 - Sub-county level predictive models for abundance of *Ae. aegypti* and *Ae. albopictus*
 - And more.....



Number of years with at least one mosquito reported

- No reported records
- 1 year
- 2 years
- 3 or more years



Ongoing CONUS mosquito control initiatives

❑ New CDC-funded mosquito control initiatives

- Regional Centers of Excellence for Vector-Borne Diseases have been funded and are active (FL, TX, NY, WI): **\$40M**
- BARDA call for sole source contract to Evolva to develop EPA-registered natural product (nootkatone)-based mosquito repellents and toxicants closed 2/15: **\$9M**
- Five new mosquito control research projects are being funded (BAA): **\$5M**
- AMCA was funded to strengthen national mosquito control capacity: **\$1.6M**
 - Manual for best mosquito management practices has been updated and is available online
 - New online and hands-on mosquito control training programs are nearing completion
 - Master-trainers for these programs will be trained in March

Closing Remarks

TELECONFERENCE OVERVIEW	DATE/TIME/LOCATION
Laboratory Task Force Eddie Ades, Robert Lanciotti, Christy Ottendorfer	Wed 3/15/2017 / 2pm–3pm EDT - Domestic Wed 3/15/2017 / 5 pm–6 pm EDT - Islands Bridge Line: 1(888)972-6716/ Passcode: 6721430
Joint Information Center/Communications Erin Connelly	Wed 3/22/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Epidemiology Task Force Stacey Martin, Carolyn Gould	Thurs 3/23/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Vector Issues Team Janet McAllister, Audrey Lenhart	Tues 3/28/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Policy and Partnerships Sue Visser, Melody Stevens	Wed 3/29/2017 / 1:30pm–2:30pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Pregnancy and Birth Defects Task Force (including surveillance) Peggy Honein, Dana Meaney-Delman, Suzanne Gilboa	Wed 3/29/2017 / 3pm–4pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Blood Safety Task Force Sustainment Strategy Discussions Koo Chung, Matt Kuhnert, Craig Hooper	Thurs 3/30/2017 / 2pm–3pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430
Medical Investigations Team Sustainment Strategy Discussions Maleeka Glover	Thurs 3/30/2017 / 3:30pm–4:30pm / Rm 5116 Bridge Line: 1(888)972-6716/ Passcode: 6721430

Thank You!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

